

Child Injuries in Lebanon: Assessing Mothers Injury Prevention Knowledge Attitude and Practices – A Cross Sectional Study

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Abstract

Background: Childhood injury is a neglected public health problem. This study aims to describe the patterns of childhood injury and to determine mothers' Knowledge, Attitude, and Practices (KAP) towards childhood injury prevention in Lebanon.

Methods This cross-sectional study recruited working and non-working mothers of children aged 0-10 years from multiple sites (i.e. medical center, private clinic, healthcare facility, refugee camp) to cover all socioeconomic backgrounds. A self-administrated questionnaire collected data on mothers' KAP toward childhood injuries. We analyzed the data and performed a summation score calculation for KAP correct answers.

Results A total of 264 mothers were surveyed and injury data were collected on their 464 children. The prevalence of childhood injury was 20% in the past 12 months, mostly sustained by males (53.8%) aged 5-10 years (38.7%). The most common injury type was fall (48.4%), followed by burns (7.5%) and sports injuries (7.5%). Hospitalized injured children were more likely to be males and older than 5 years. More than one-third of the mothers demonstrated poor knowledge, while the majority showed poor practice (54.4%) and a fair attitude (45.6%) towards child injury prevention. Children of working mothers have 3 times higher odds of sustaining injuries (OR:2.95, 95% CI: 1.60;5.47) compared to those of non-working mothers.

Conclusion Childhood injury is a major health problem that overburdens the young population, yet mothers lack preventive knowledge and adequate preparedness. Educational programs are recommended for mothers and caregivers. Further studies are needed to understand the cultural context and identify effective strategies for preventing childhood injuries.

I. Introduction

Unintentional injury is one of the leading causes of mortality and morbidity among children, accounting for almost 90% of the global child death rate [1,2]. In 2016, over 600,000 children aged 14 years old and below died as a result of unintentional injuries worldwide [3].

The burden of childhood injury is disproportionally distributed between developing and developed countries with the majority of child injury-related mortality and morbidity occurring in low- and middle- income countries [4]. Several Middle Eastern studies had underscored the gravity and the increased burden of childhood injuries in the region [5-8]. Compared to its neighboring countries, Lebanon sustains even a larger burden of childhood injuries. Injury-related death was estimated 11 at 11% of the total number of deaths for children under 5 years, compared to a 3% average in countries of the Eastern Mediterranean Region (EMR) [9]. Childhood injury claims a large proportion of child death burden in Lebanon and was estimated to be the 3rd leading cause of death and the 6th leading cause of disability-adjusted life years (DALYs) among children under 14 years of age [10]. Irrespective of its large toll and the high proportion of children in the Lebanese population, studies investigating childhood injuries remain scarce and limited in scope and policy impacts [11,12].

An emerging body of literature has identified multiple factors associated with childhood injury: child's age, gender, race, family socioeconomic status, adult supervision, lack of parental injury awareness and home safety proofing behavior as well as limited access to healthcare services [4,6,13]. Lack of caregiver supervision has been implicated as a contributory factor in a variety of childhood injuries such as falls, road traffic injuries, drowning, choking, and playground injuries [14]. Some studies have linked home injuries to mothers' working status [15-17] where it was attributed to the lack of attention and continuity of supervision by substitute caregivers. Similar studies have identified a strong association between childhood injuries and mother's professional working status as a proxy for the lack of direct parental supervision at home [18,19].

A limited number of studies has investigated parental knowledge and attitudes toward childhood injury and safety practices in the Eastern Mediterranean region [9,11]. There is a dearth of studies that had explored mothers' knowledge, attitude, and practices of childhood safety and injury prevention. Among the Eastern Mediterranean countries, Lebanon has a high proportion of working women, therefore, there is an urgent need to define and adopt childhood injury prevention strategies in this socio-cultural context [20].

This study aimed to describe the magnitude and patterns of childhood injury in Lebanon and to examine mothers' level of knowledge, attitude, and practice of childhood safety and injury prevention. The outcomes of this study will investigate key determinants for child injuries and 36 identify effective strategies for prevention.

Ii. Method

Study Design

A cross-sectional study was conducted between January and March 2020 using a self-administrated survey administered to mothers older than 18 years of age and who have at least one child aged 10 years old or below. The American University of Beirut Institutional Review Board (IRB) approved the study (SBS-2019-0145).

The study was directed at working and non-working mothers from a diverse background and socio-economic status attending health care facilities and educational institutions across multiple sites in the capital City Beirut, Lebanon. To accommodate multiple perspectives, we adopted a maximum variation sampling strategy for recruitment. We surveyed mothers from multiple locations in the greater Beirut city including a medical center, an educational institution, a private clinic, a health care facility, and a refugee camp United Nations Relief and Works Agency for Palestine Refugees (UNRWA) clinic (patients or accompanying relatives). The sample size was based on an effect size equals to 0.2, with a 95% level of confidence, 5% margin of error, 70% response rate, and 50% prevalence of injury.

At the medical center and clinics, mothers were randomly selected, directly approached, and asked if they would be interested in participating in the survey. The study team explained the study objective and solicited participants' oral consent to be surveyed. At the educational institution, female workers were randomly selected from the institution's human resources mailing list. The survey package was emailed to mothers. The package included a descriptive summary page of the study and a consent form.

Survey Tool

The used survey tool was adopted from previous studies, adjusted to reflect the Lebanese context, and was translated into the Arabic language [21-23]. The survey encompasses 3 main sections with a corresponding sub-set of 69 questions to capture: (1) Mother's socio-demographic characteristics (i.e. educational level, work status, marital status, number of children, and monthly family income classified as low, middle, and high with Low (<675,000 LBP: < 338 USD), Middle (675000-2000000 LBP: 338 UD-1,000USD), High (>2000000 LBP: >1,000 USD), rates are based on March 2020 conversion rate, prior to currency inflation), (2) Child injury history in the last 12 months (i.e. injury type, mechanism, location, severity classified as mild, moderate and severe), and (3) Mother's KAP towards injury prevention (i.e. beliefs, attitudes, perceptions, and knowledge of childhood injury prevention, adopted safety measures, access to child safety resources). Three subsets of questions investigated mothers' knowledge, attitude, and practices towards child injury prevention. The survey was pilot tested to ensure face validity and applicability. The questions were rated on the Likert scale with 'Poor' for scores of less than 50% correct/positive answers, 'Fair' for 50-75% correct/positive answers, and 'Good' for more than 75% correct/positive answers. This scoring summation was adopted and validated by similar studies [21,24,25].

Data Analysis

The overall response rate was 60%. The data was cleaned, tabulated, and analyzed using STATA (version 14). We performed descriptive statistics to describe mothers' socio-demographic characteristics and to identify child injury mechanisms, their frequencies, and percentages. Concerning mothers' KAP towards child injury prevention, we calculated the score as the summation of correct/positive answers. We further conducted a Chi-square test to measure the association between the occurrence of child injury and mothers' working status [26]. We used the simple logistic regression to determine the unadjusted odds ratios (OR), 95% confidence interval (CI), and to obtain the p-values, accounting for the clustering effect (household). The level of significance was determined at p-value <0.05. We performed multiple logistic regression analyses to determine the adjusted ORs and compared the adjusted and unadjusted ORs to detect possible confounders [27].

iii. Results

This study included 264 mothers reporting on 464 children aged up to 10 years.

Mothers Characteristics

The mean age of the interviewed mothers was 32.7 ± 6.6 years with a majority (40.5%, N= 107) in the age group 35 years and above, lived with a spouse (92.6%), and had one or two children aged 10 and below (40.4% and 41.6% respectively). More than half of the mothers (56.9%) have completed university or held a post-graduate degree. Nearly 46.4% reported high family monthly income, 23.6% reported middle income, and 30% reported low monthly family income.

Nearly half of the mothers (48.1%) were currently working, mostly (40%) in the health, science, and pharmaceutical fields. Almost half (48.8%) were working more than 8 hours per day, 81.2% in the private sector with a mean of 12.8 ± 7.8 years of work experience (Mothers' characteristics are summarized in Table 1).

Table 1: Characteristics of mothers with children 10 years and younger (N=264, year: 2020)

Variable	N	%
Mothers' Age (years)		
<25	25	9.5
25 -<30	65	24.6
30-<35	67	25.4
≥35	107	40.5
Mother's highest educational level		
Below secondary level	70	26.9
Secondary level	42	16.2
University and above level	148	56.9
Mothers' Marital Status		
No spouse	19	7.3
With spouse	241	92.7
Housing Status		
Rented	104	39.9
Owned	146	55.9
Others	11	4.2
Income Level*		
Low income	66	30.0
Middle income	52	23.6
High income	102	46.4
Number of children 10 years and below		
One	103	40.4
Two	106	41.6
Three	36	14.1
Four or more	10	3.9
Mothers' Working Status and working Details		
Ever worked mother		
No	113	43.8
Yes	145	56.2
Mothers' current Working status		
No	134	51.9
Yes	124	48.1
Domain of Mothers' work *		
Health, Science, & Pharmaceuticals	40	47.6
Business & Administration	16	19.1
Education	10	11.9
Others	12	14.3
Accounting & Banking	4	4.8

Engineering & Manufacturing	1	1.2
Human Resources	1	1.2
Working Hours/day*		
2-4 hours	11	8.9
5-8 hours	52	42.3
More than 8 hours	60	48.8
Mothers' KAP towards child injury prevention[□]		
Mothers' Knowledge		
Poor Knowledge	94	35.8
Fair Knowledge	151	57.4
Good knowledge	18	6.8
Mothers' Attitude		
Poor Attitude	38	14.5
Fair Attitude	120	45.6
Good Attitude	105	39.9
Mothers' Practice		
Poor practice	143	54.4
Fair practice	99	37.6
Good practice	21	8.0

*Totals do not add up to 100% (264) due to missing values

*Income and its equivalence in USD: Low (<675,000 LBP: < 338 USD), Middle (675000-2000000 LBP: 338 UD-1,000USD), High (>2000000 LBP: >1,000 USD), rates are based on March 2020 conversion rate, prior to currency inflation.

□poor: <50% of the items were correctly/positively answered, Fair: 51-75% of the items were correctly/positively answered, Good: >75% of the items were correctly/positively answered

Mothers' Knowledge, Attitude, Attitude, and Practices towards Child Injury Prevention

The majority of participating mothers showed fair knowledge (57.4%) with a mean of 8.5 (± 2.7) out of 14, fair attitude (45.6%) with a mean of 5 (± 1.9) out of 10, and poor practice (54.4%) with a mean of 13.1 (± 4.6) out of 25 towards child injury prevention. More than one-third of mothers reported poor knowledge (35.7%) (Table 1) (Mothers' KAP survey responses are detailed in Table A).

Characteristics of Children Injury Patterns

Two hundred and sixty-four participating mothers reported injury information on a total of 464 children aged 10 years and younger. Nearly one-fourth of children (19.3%) experienced injuries in the past 12 months, 20.7% of whom sustained severe injuries (Table 2). More than half of the children (53.5%) were males, with a mean age for injured children of 5.2 years (± 2.9). Injured children were distributed across age groups with 3-5 (30%), 7-10 (28.3%), 0-3 (22.1%) and 5-7 (19.1%). (Table 2).

Table 2: The distribution of children aged ≤ 10 years by age, gender, occurrence, and severity of injury in the past 12 months (N=464; year:2020)

Variable	N	%
Child age categories		
<3 years	102	22.1
3- 5 years	141	30.5
>5-7 years	88	19.1
>7 years	131	28.3
Child gender		
Female	214	46.5
Male	246	53.5
Child injury in the past 12 months		
No injury	371	80.7
Injuries	89	19.3
Severe injury in the past 12 months among injured children (applicable n=89)		
No	69	79.3
Yes	18	20.7

*Not all variables add to the total of 464 due to missing values

Fall injury was reportedly the leading cause of childhood injury (48.4 %), followed by fires and burns (7.5%), and sports-related injuries (7.5%) (Table 3). Drowning was reported at 2.15%. The majority of fall injuries were sustained by children less than 3 years of age, while children aged >5 years experienced mainly road traffic and sports-related injuries (Figure 1).

It is worth noting that five children have experienced multiple injuries (i.e. 2 types of injuries). Electric shocks and sports-related injuries were 100% reported in males, while burns and poisoning were mostly sustained by females with a high prevalence of 57.1% and 75% respectively (Table 3).

Table 3: The distribution of reported child Injuries based on child gender and age (N=93 injuries) *

Child Injury	Falls N (%)	Burns N (%)	Sport- injury N (%)	Road injuries N (%)	Poisoning N (%)	Drowning N (%)	Others combined** N (%)	Total N (%)
	45 (48.4)	7 (7.5)	7 (7.5)	5 (5.3)	4 (4.3)	2 (2.2)	23 (24.7)	93 (100)
Gender								
Females N (%)	23 (51.1)	4 (57.1)	0 (0)	2 (40)	3 (75)	1 (50)	10 (43.5)	43 (46.2)
Males N (%)	22 (48.9)	3 (42.9)	7 (100)	3 (60)	1 (25)	1 (50)	13 (56.5)	50 (53.8)
Age								
0-3	17 (37.8)	3 (42.9)	0 (0)	0 (0)	0 (0)	1 (50)	5 (21.8)	25 (26.9)
3-5	15 (33.3)	3 (42.9)	1 (14.3)	2 (40)	1 (25)	0 (0)	9 (39.1)	32 (34.4)
5-10	13 (28.9)	1 (14.2)	6 (85.7)	3 (60)	3 (75)	1 (50)	9 (39.1)	36 (38.7)

* Five children reported two types of injuries

**Others Combined: electric shock, bite/sting, choking, crushing, not specified

Effect of Mothers' working status, educational level, family income on Child Injury Risk

Adjusting for the clustering effect, only mother working status, educational level, and family income revealed a statistically significant association with child injury in the bivariate analyses ($P < 0.05$) (Table 4). Children of currently working mothers were 2.6 times more likely to sustain an injury compared to those of non-working mothers ($p < 0.05$). The odds of sustaining a child injury among mothers with middle and high income were almost 4 and 5.4 times, respectively, compared to that of children in families with low income. Moreover, children whose mothers have completed their postgraduate degree had 3 times higher odds of getting injured compared to those whose mothers did not attend universities.

Table 4: Bivariate analyses between the occurrence of child injuries, mothers' working status and selected covariates adjusted for clustering (Household) effect

Variable	Unadjusted OR	95% CI of OR	P-value
Current Working Mothers (YES/NO)			
No	1		
Yes	2.61	(1.51;4.52)	0.001*
Ever worked status			
No	1		
Yes	2.72	(1.55;4.74)	0.000*
Mothers' Age			
<25	1		
25 -<30	0.68	(0.23;1.99)	0.483
30-<35	1.33	(0.47;3.80)	0.590
≥35	1.36	(0.51;3.66)	0.540
Mothers Profession			
	1.15	(0.91;1.45)	0.227
Working Hours/day			
2-4 hours	1		
5-8 hours	1.79	(0.43;7.39)	0.424
More than 8 hours	1.80	(0.43;7.47)	0.418
Working Sector			
Non-Private sector	1		
Private sector	1.13	(0.40;3.12)	0.821
Mother's educational level			
Below secondary level	1		
secondary level	1.98	(0.86;4.58)	0.106
University level	2.97	(1.49;5.19)	0.002*
Mothers' Marital Status			
Without spouse	1		
With spouse	0.64	(0.22;1.86)	0.412
Housing Status			
Rented	1		
Owned	1.47	(0.83;2.59)	0.185
Other	0.90	(0.27;2.95)	0.860
Family Income			
Low income	1		
Middle income	4.11	(1.65;10.2)	0.002*
High income	5.37	(2.27;12.9)	0.000*
Number of children 10 years and below			
One	1		
Two	1.40	(0.75;2.60)	0.291
Three	0.69	(0.29;1.66)	0.410
Four or more	0.35	(0.11;1.09)	0.071

Child Gender			
Female	1		
Male	0.97	(0.59;1.58)	0.909
Child Age			
<3 years	1		
3- 5years	1.33	(0.71;2.51)	0.376
>5 -7 years	0.83	(0.38;1.76)	0.615
>7 years	0.95	(0.48;1.86)	0.468
Mothers' Practice			
Poor practice	1		
Fair practice	1.19	(0.68;2.11)	0.676
Good practice	0.23	(0.07;1.49)	0.149
Mothers' Attitude			
Poor Attitude	1		
Fair Attitude	1.30	(0.61;2.79)	0.495
Good Attitude	1.21	(0.54;2.71)	0.637
Mothers' Knowledge			
Poor Knowledge	1		
Fair Knowledge	0.88	(0.50;1.54)	0.644
Good knowledge	1.31	(0.37;4.66)	0.673

*Significance at P-value <0.05

The final adjusted model revealed that the odds of having injuries among children with currently working mothers are almost 3 times higher than those with currently non-working mothers while controlling for mothers' practices towards child injury prevention (Table 5).

Table 5: The unadjusted and adjusted ORs for the dependent, independent, and other covariate variables

Variable	Unadjusted OR (95% CI)	P-value	Adjusted OR (95% CI)	P-value
Current Working Mothers (YES/NO)				
No	1		1	
Yes	2.61 (1.51;4.52)	0.001*	2.95 (1.60;5.47)	0.001*
Mothers' Practice				
Poor practice	1		1	
Fair practice	1.19 (0.68;2.11)	0.676	0.79 (0.41;1.49)	0.413
Good practice	0.23 (0.07;1.49)	0.149	0.22 (0.05;1.00)	0.05*

*Significant at P-value < 0.05

IV. Discussion

This is the first study from Lebanon on mothers' knowledge, attitudes, and practices of child injuries. The study illustrates the type, characteristics, and patterns of child injuries and examines their association with socioeconomic factors that increase the risk of injury occurrence among children.

The present study indicates a compelling high prevalence rate of nearly 20% of injury among children aged 10 years and below. While these results are consistent with the reported rates of 15 to 30% in studies conducted in Saudi Arabi and India [28-32], they are much higher than the

rates of 9 to 10% reported in developed countries [33,34].

Findings from this study show that the majority of injuries were sustained by males and older age group children (5-10 years) compared to the younger age group (0-5 years). These findings align with observations from local studies [11,12], regional studies [6], and the international literature [32]. A plausible explanation can be attributed to the child's increased outdoor activities, age-dependent curiosity, and a noticeably more risky behavior displayed among males and older age children [35].

Across injury mechanisms, falls injuries were responsible for the majority of childhood injuries preceding burns. This pattern is consistently reported in a previous study conducted in Oman [36], Saudi Arabia [37], and the United Arab Emirates [38], revealing that falls impose a substantial toll on 186 the children population, particularly among young children aged 0-5.

Consistent with existing studies, our findings identify burns as the second leading cause of childhood injuries [36,39]. Our results show also that burn injuries were more pronounced among the female population aged 0-5 years. This disparity in the pattern of burn injuries among males and females stems from the female nature and interest in being engaged in cooking and food serving process and consequently their presence in the kitchen area [40].

Sports-related injuries are commonly reported among older age group children, more specifically, males 7 years of age and older. Studies from Canada, the United States, and Australia yielded similar patterns of sports injuries among school-aged children 6-10 years of age [34,41,42]. These types of injuries call for the establishment of safe play areas and outdoor environments with playgrounds meeting international standards for safety to reduce preventable injuries [43].

This present study demonstrates that 1 in 5 children required medical attention and hospitalization as a result of their injury, namely falls and cuts. Hospitalized children were most likely to be males and older than 5 years of age. This is consistent with a study conducted in Western Australia and demonstrated a greater risk of injury-related hospitalization among males compared to females with almost double the rate of hospital admissions (2,362 compared to 1,327 per 100,000) mainly due to fall injuries [44]. A similar study carried out in low- and middle-income countries indicated that fall injuries represented the leading cause of childhood hospitalization [45].

In this present study, the reported KAP score revealed that mothers of children below 10 have a fair knowledge of child safety, fair attitude and awareness, and poor practice of child injury preventive measures. Despite the unique characteristics of our cohort with highly educated mothers, working in the health-related sector, and residing in an urban setting, this study clearly highlights the adverse lack of knowledge of child safety and injury prevention in this population. This finding is consistent with studies conducted in Egypt, Iraq, and Ghana, in which mothers demonstrated poor to fair KAP scores reflecting low to moderate levels of knowledge of child injury prevention [24, 46, 47]. Evidence from our current study presents strong evidence to design an awareness campaign and parental/caregivers child safety program to educate parents and impart the necessary skills to prevent child injuries.

Despite the fact that most injuries are predictable and preventable [48], an overwhelming number of mothers believed that fate played a decisive role in their children's injury occurrence. Good road safety practices were reported by the majority of mothers, nonetheless, only 37 % of our study mothers used a child restraint system (i.e. car seat or booster seat) for their children. Despite being illegal, many mothers reported using their cell phone to make a phone call or to even text while driving with their children on board. This is consistent with reported parental behavior in Saudi Arabia and India manifested by the absence of any child restraint system and lack of compliance with road safety measures including the use of seat belts [49].

One of the main highlights of this present study is the strong association between child injuries and the working status of mothers. Previous studies have reported that children of professionally working mothers are at higher risk of sustaining injuries compared to non-working mothers [50], especially for home injuries. This significant association provides explanations for the insufficient time to care for a child among working mothers [47] as well as the shift in care and limited childcare experience among caregivers (grandparents, domestic workers) and prioritization of house chores over child direct supervision and care [51].

There are some key takeaways about injury prevention and child supervision from this study: 1) mothers' practice of preventive measures of child injury was significantly associated with a lower occurrence of injuries, 2) Higher education status of women in Lebanon did not translate into good injury prevention knowledge or practices, thus requires targeted campaigns that focus on mothers and other caregivers, 3) Children of working mothers were more likely to get injured owing to inadequate supervision at home, 4) With the lack of child restraint system enforcement in Lebanon, mothers showed little compliance with existing child safety laws.

When designing injury prevention programs in Lebanon, a major shift in parental belief that espouses preventability and predictability of injuries is needed to impact a change in behavior. Both parents and caregivers must be encouraged to adopt safety measures that can lead to child injury reduction. Child supervision methods, caregivers' interactions, and practices must not be solely considered the responsibility of mothers, as the study highlighted a significant prevalence of self-blame and guilt in mothers especially if their children get hurt. Other models of

supervision for pre-school children such as creches and after-school adult supervision of older children must be considered for working mothers. There is an urgent need to educate parents about child restraint systems, enforce driving laws and child restraint regulations as well as restrict the use of any handheld devices while driving.

The present study has several strengths. The study sample size is sufficient to reveal a significant association between variables. Accounting for the clustering effect i.e. the household where siblings who shared common factors were treated as independent individuals, is considered as another strength. The adopted tool was comprehensive, contextualized, and translated to local language for more accurate responses.

This study has some limitations. Firstly, the cross-sectional nature of the study hinders its potential to identify a causal relationship between the exposure and the outcome variables due to the lack of essential information. Secondly, participating mothers may have denied the occurrence of child injury due to social desirability and to avoid blame on their part, which can ultimately lead to information bias and under-reporting of the actual burden. Thirdly, the low response rate among less-educated mothers might introduce selection bias, thus impacting the external validity of the study and potentially inflating the prevalence of childhood injuries among highly educated and working mothers. Finally, this present study was conducted in Beirut, its results may be generalizable and representative only to the urban Lebanese population.

V. Conclusion

Childhood injury remains a major public health problem in Lebanon, responsible for a substantially high prevalence of child morbidity and mortality. In addition, mothers were shown to have limited knowledge, attitude, and poor practices of child injury prevention. Concerted efforts are required to design evidence-based educational programs to educate mothers and impart the needed knowledge and necessary skills to help parents prevent and control for childhood injuries. Communication with health professionals, policymakers, and the ministry of labor should be initiated to set priorities and introduce effective workplace family-friendly policies (i.e. long maternity paid leaves, remote work, on-site childcare facilities). These policies, proven effective in the US and Canada, allow mothers flexible work schedules and facilitate their direct and close supervision of their young children [52]. Further research warrants the assessment of the childhood injury burden, its determinants and risk factors, and the extent of this major health problem at the national level.

Declarations

Ethical Approval

The American University of Beirut Institutional Review Board (IRB) approved the study (SBS-2019-0145). The study team explained the study objective and solicited participants' oral consent to be surveyed.

Consent for Publication

All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

Availability of Data and Materials

All data generated or analyzed during this study are included in this published article.

Competing Interests

No conflict of interest has been declared

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This study did not receive funds

Authors' Contribution

Dr. S A conceptualized and designed the study, supervised the data collection and analysis process, and drafted the initial manuscript, reviewed and edited the final manuscript. R E revised the study design, conducted the data collection and data analysis processes and contributed to the manuscript's initial draft writing and review. Dr. M C reviewed the study design and data analysis, and revised the manuscript. Dr. R S helped with the recruitment, reviewed and edited the manuscript. Dr. A M advised on the data analysis, critically reviewed and edited the manuscript, advising on intellectual content. All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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Figures

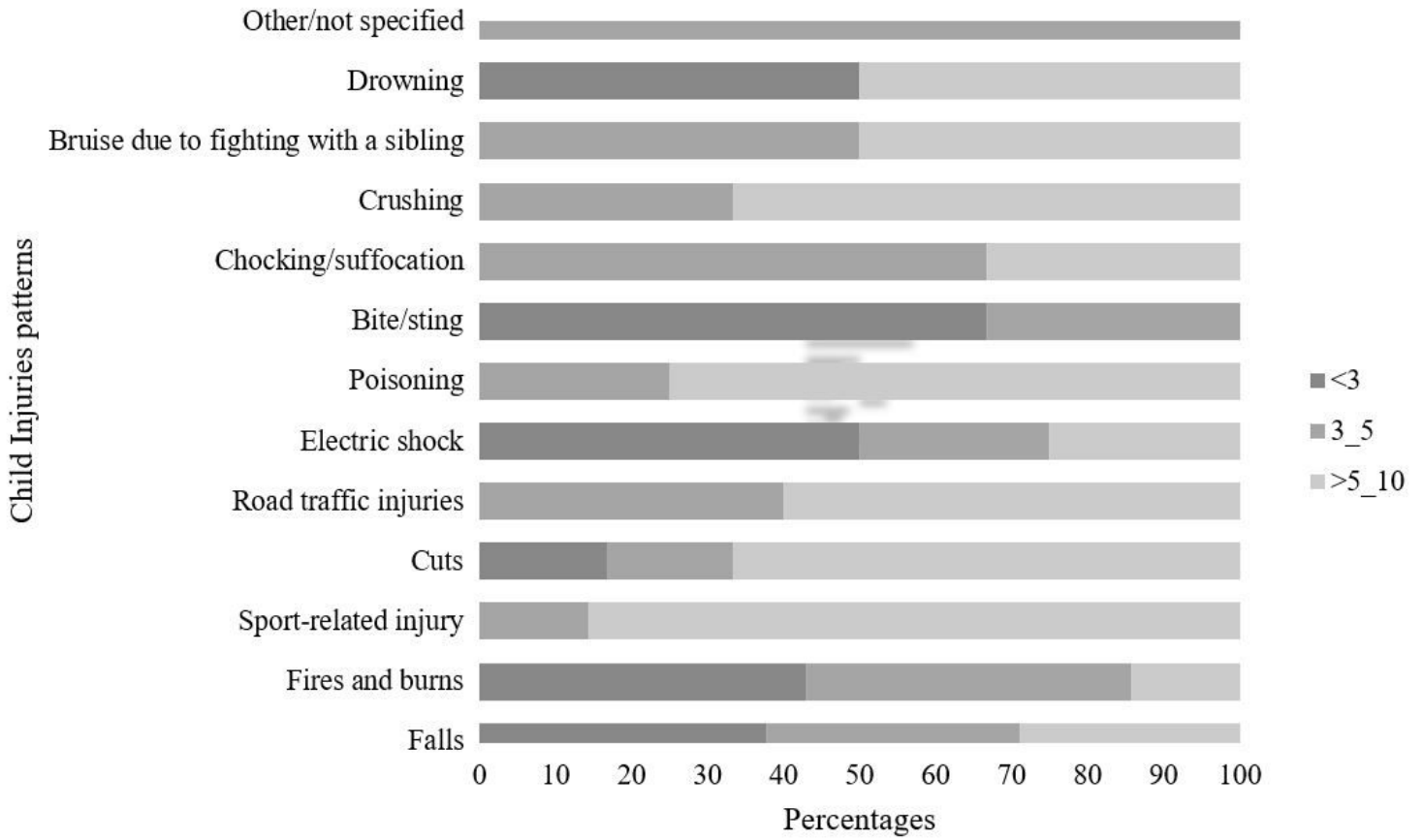


Figure 1

Injuries Patterns by Children's age groups (Years)

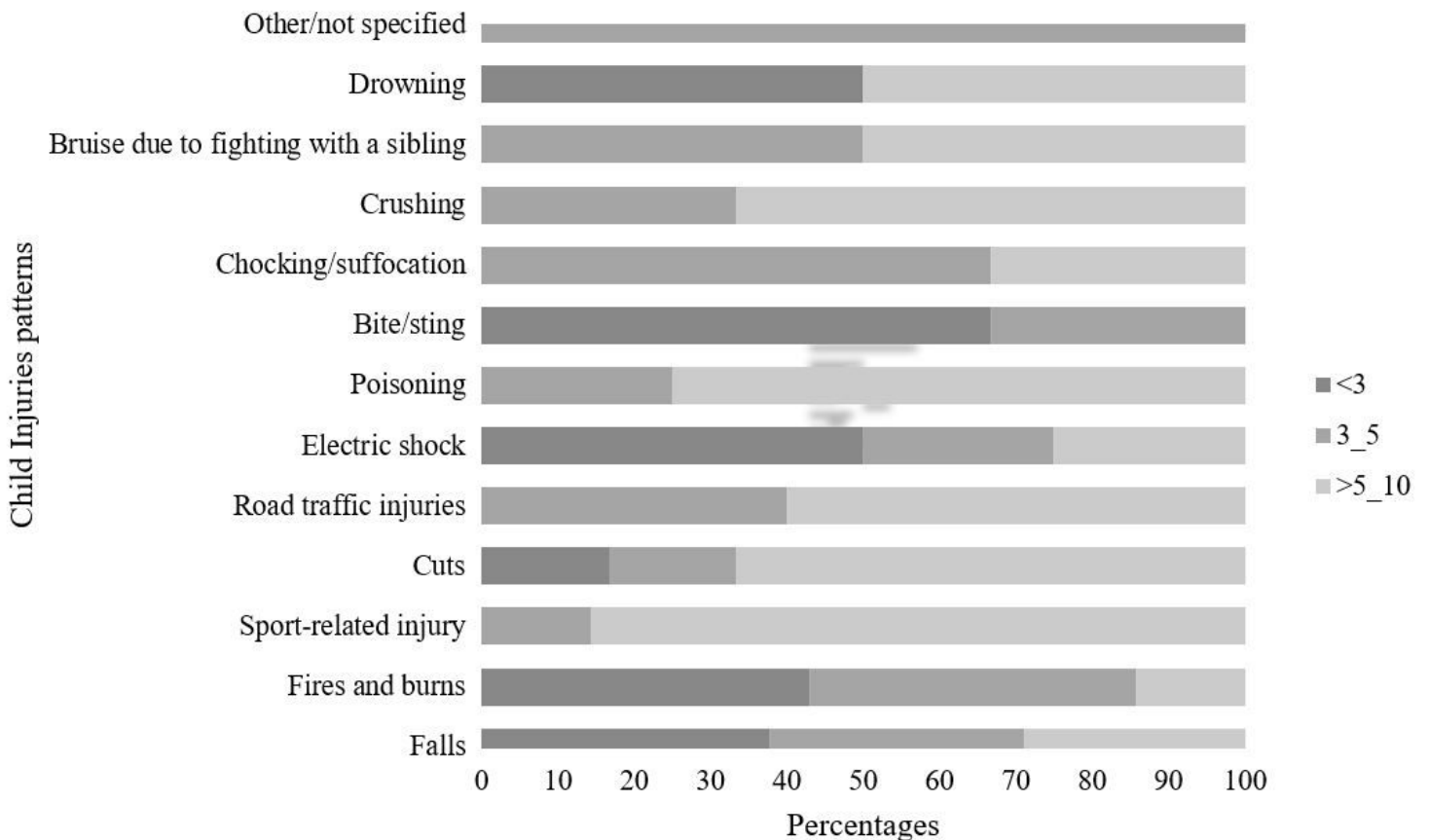


Figure 1

Injuries Patterns by Children's age groups (Years)

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